AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A nucleic acid primer having a 5′ end and a 3′ end, comprising:

(a) a first region containing the 5′ end of the primer and an immobilization attachment site; and

(b) a second region containing the 3′ end of the primer <u>including a free 3′ hydroxyl</u> and a selectively chemically cleavable site, ~~wherein the 3′ end is capable of being extended by an~~ enzyme to generate an extension segment,

whereby, when the primer is immobilized via the immobilization attachment site, and the selectively chemically cleavable site is cleaved, the remainder of the primer remains immobilized.

2. (Previously presented) The primer of claim 1, wherein the selectively chemically cleavable site is located at or within about five nucleotides from the 3′ end of the primer.

3. (Original) The primer of claim 2, wherein the second region of the primer comprises a single nucleotide.

4. (Original) The primer of claim 3, wherein the second region comprises a ribonucleotide.

5. (Previously presented) The primer of claim 1, wherein the selectively chemically cleavable site comprises a modified base, a modified sugar, or a chemically cleavable group incorporated into the phosphate backbone.

6. (Previously presented) The primer of claim 5, wherein the selectively chemically cleavable site comprises a modified sugar.

7. (Previously presented) The primer of claim 1, where the selectively chemically cleavable site is selected from the group consisting of dialkoxysilane,

3'-(S)-phosphorothioate, 5'-(S)-phosphorothioate, 3'-(N)-phosphoramidate, 5'-(N)-phosphoramidate, uracil, and ribose.

8. (Previously presented) The primer of claim 7, wherein the selectively chemically cleavable site is 3'-(S)-phosphorothioate or 5'-(S)-phosphorothioate.

9. (Original) The primer of claim 1, wherein the enzyme is a DNA polymerase.

10. (Original) The primer of claim 1, wherein the enzyme is a ligase.

11. (Original) The primer of claim 1, further comprising a solid support attached to the immobilization attachment site.

12. (Original) The primer of claim 11, wherein the immobilization attachment site is attached to an intervening spacer arm bound to the solid support.

13. (Original) The primer of claim 12, wherein the intervening spacer arm is six or more atoms in length.

14. (Original) The primer of claim 11, wherein the solid support is selected from the group consisting of glass, silicon, polystyrene, aluminum, steel, iron, copper, nickel, silver and gold.

15. (Original) The primer of claim 11, wherein the solid support comprises a functionality selected from the group of avidin and streptavidin.

16. (Original) The primer of claim 11, wherein the solid support comprises an antibody.

17. (Original) The primer of claim 16, wherein the antibody comprises anti-digoxigenin.

18. (Original) The primer of claim 1, wherein the immobilization attachment site is a substituent on one of the bases or sugars of the primer.

19. (Currently amended) The primer of claim 1, wherein <u>the</u> ~~said~~ immobilization attachment site is biotin or digoxigenin.

20. (Original) The primer of claim 1, wherein the immobilization attachment site comprises a single-stranded nucleic acid.

21. (Original) The primer of claim 20, further comprising a solid support, wherein the single stranded nucleic acid is complementary to an intermediary oligonucleotide bound to the solid support and wherein the primer is attached to the solid support by hybridization of the immobilization attachment site to the intermediary oligonucleotide.